

IN THE CLAIMS:

Cancel claims 2-7, amend claims 1, 8, 11-15 and add claim 16 as follows:

1.(Currently Amended) A Mmethod for determining an offset-reduced Hall voltage (U_h), and/or an offset voltage ($U_{h,offset}$) of a Hall sensor (1), comprising:

applying a first Hall sensor current (I) at ~~a~~ first and second taps (~~a1, a2, a3~~) of the Hall sensor (1), and determining a first Hall voltage (U_{h1}) at ~~the~~ third and fourth taps of the Hall sensor (a3, a4) spatially displaced from the first and second taps (~~a1, a2, a5~~),

applying a second Hall sensor current modified relative to the first Hall sensor current, and determining a second Hall voltage (U_{h2}), and

determining the offset-reduced Hall voltage (U_h) ~~and/or Hall voltage offset ($U_{h,offset}$)~~ from the first and second Hall voltages ~~determined (U_{h1}, U_{h2})~~, characterized in that

the application of the second Hall current I is effected at the third and fourth taps ~~that are spatially displaced from the first and/or second taps (a3, a4)~~,

wherein the offset-reduced Hall voltage is determined with a first linear arrangement of the first, second, third and fourth taps to determine an angular component of a magnetic field, and an additional Hall voltage is determined with a second linear arrangement of taps in an arrangement which is oriented at an angle relative to the first arrangement.

2.(Cancelled)

3.(Cancelled)

4.(Cancelled)

5.(Cancelled)

6.(Cancelled)

7. (Cancelled)

8.(Currently Amended) An offset-reduced Hall sensor ~~(1)~~, comprising:

a first tap, a second tap, a third tap, a fourth tap and a fifth tap each configured and arranged taps (a1— a5) to tap or apply voltages and/or currents, where the second and fifth taps are shunted together, and

a control device (C) to apply a first Hall sensor current (I) through the a-first central-tap (a1), and the two-second taps (a2, a5) that is spatially displaced relative to the first tap, and to determine-sense a first Hall voltage (U1) between the third and fourth taps, where the first tap is central with respect to the remaining taps and the third tap is located between the first and second taps, and the fourth tap is located between the first and fifth taps, on both sides of the first tap (a1) between a third and fourth tap (a1, a4) that are located between the first tap (a1) and fourth taps (a2, a5) — the arrangement comprising a first measurement system, characterized in that

the control device (C) has a switching device to apply a second Hall sensor current through the third and fourth taps and sense or the Hall sensor current (I) at taps that are spatially displaced relative to the first, second, and additional second taps (a1, a2, a5), and to tap a second Hall voltage between the first and second taps (U_{H2}) at taps (a1, a2) that are spatially displaced relative to the third and fourth taps (a3, a4) — the arrangement comprising a second measurement system.

9.(Cancelled)

10.(Cancelled)

11.(Currently Amended) The hall sensor of claim ~~810~~, comprising a memory device (M) to that stores the first and/or second Hall voltages, (Uh1, Uh2), and where the control device processes the first and second Hall voltages to provide an analyzer (C) to determine an offset-compensated Hall voltage (Uh) from the Hall voltages (Uh1, Uh2) tapped under the conditions provided by the first and second different measurement systems.

12.(Currently Amended) The hall sensor of claim 11, wherein the first, second, third, fourth and fifth taps (a1—a5) are located in a plane spanned by the flow direction of the first Hall sensor current (I) and of a the magnetic field (B) to be detected, or in a plane parallel thereto in the manner of a vertical Hall sensor.

13.(Currently Amended) The hall sensor of claim ~~812~~, comprising: wherein
a sixth tap, a seventh tap, an eighth tap and ninth tap where the sixth and ninth taps are shunted together, where the first tap is located between the seventh and eight taps, and the seventh tap is located between the first and sixth taps while the eight tap is located between the first and ninth taps, where a line formed by the first, sixth, seventh, eight and ninth taps is offset by an angle from a line formed by the first, second, third, fourth and fifth taps a first measurement

~~group having mutually linear first through fourth taps (a1 – a5) forms a first measurement system and a second measurement system, and~~

~~—— a second measurement group forms a first and a second measurement system of the first through fourth taps (a1, a3* – a5*) that are arranged linearly relative to each other and pivoted by an angle (α) relative to the first measurement group (a1 – a5) within the plane.~~

14. (Currently Amended) The hall sensor of claim 132, wherein

the second, fifth, sixth and ninth taps are each located a first distance from the first tap;
and

the third, fourth, seventh and eighth taps are each located a second distance from the first tap, where the second distance is greater than the first distance~~a plurality of second taps (a2, a2*, a2', a5, a5*, a5') displaced from the first tap (a1) are distributed around a circular first track (d1);~~
and

~~—— a plurality of third taps (a3, a3*) and fourth taps (a4, a4*) displaced from the first tap (a1) are arranged on a second circular track (d2), the first track (d1) being further removed from the first tap (a1) than the second track (d2).~~

15. (Currently Amended) The hall sensor of claim 14, wherein

~~—— the number of taps (a2, a2*, a2', a5, a5*, a5') on the first track (d1) is greater than the number of taps (a3, a3*, a4, a4*) on the second track (d2), and~~

the control device an analyzer (C) is provided to determine voltage values associated with intermediate tap positions that do not include an actual physical tap~~for additional positions on the second track (d2) without an existing tap (a3').~~

16.(New) The hall sensor of claim 11, wherein the first, second, third, fourth and fifth taps are configured and arranged in a vertical Hall sensor arrangement.